

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/14230

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ B29C49/42, B29C49/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ B29C49/00-49/80

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2004
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4355968 A (PONT-A-MOUSSON S.A.), 26 October, 1982 (26.10.82), Column 3, line 31 to column 4, line 64; Figs. & JP 59-33287 B2 column 6, line 37 to column 9, line 30; drawings & BR 8101770 A & DE 3109267 A & FR 2479077 A & GB 2074496 A & IT 1144701 B	1-19

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search
02 February, 2004 (02.02.04)

Date of mailing of the international search report
17 February, 2004 (17.02.04)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5863571 A (SIDEL S.A.), 26 January, 1999 (26.01.99), Column 10, line 57 to column 14, line 26; Figs. & JP 2889704 B2 Claims; drawings & AU 9648838 A & BR 9607527 A & CA 2214099 C & CN 1177316 A & DE 69616035 E & EP 812254 A1 & ES 2165974 T3 & FR 2731176 A1 & KR 98702618 A & MX 9706298 A1 & WO 1996/026826 A1	1,2,11,12
A	US 5683729 A (SIDEL S.A.), 04 November, 1997 (04.11.97), Column 9, line 45 to column 12, line 40; Figs. & JP 2812805 B2 Claims; drawings & AU 9513446 A & BR 9407358 A & CA 2164945 C & CN 1129422 A & DE 69406298 E & EP 715567 A1 & ES 2108571 T3 & FR 2709264 A1 & KR 341598 B & MX 201677 B & WO 1995/005933 A1	1,2,11,12
A	US 6152723 A (KRONES AG.), 28 November, 2000 (28.11.00), Column 5, line 62 to column 6, line 19; Fig. 9 & JP 2000-512929 A page 13, line 24 to page 14, line 11; Fig. 9 & BR 9805910 A & CA 2251253 C & CN 1217683 A & DE 19727278 A1 & EP 894045 A1 & ES 2168744 T3 & KR 2000064862 A & RU 2163194 C2 & WO 1998/035815 A1	1,2,11,12
A	JP 11-115039 A (Toyo Seikan Kaisha, Ltd.), 27 April, 1999 (27.04.99), (Family: none)	1,2,11,12
A	US 5116217 A (SIDEL), 26 May, 1992 (26.05.92), Column 4, line 7 to column 5, line 24; Figs. 3 to 5 & JP 2740333 B2 column 6, line 22 to column 8, line 4; Figs. 3 to 5 & AU 9054661 A & BR 9002052 A & DE 69004854 E & EP 396482 A1 & ES 2047298 T3 & FR 2646632 A	3-6,13-16

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5039298 A (Toyo Seikan Kaisha, Ltd.), 13 August, 1991 (13.08.91), Column 5, line 32 to column 7, line 44; Figs. 2 to 8 & JP 6-59893 B2 column 7, line 23 to column 9, line 8; Figs. 2 to 8 & AU 8942958 A & CA 1325408 C & DE 68911535 E & DK 8905267 A & EP 377735 A1 & ES 2048295 T3 & KR 9511145 B1 & ZA 8907926 A & WO 1990/000138 A1	7-9,17-19
A	US 4005966 A (CONTINENTAL CAN CO., INC.), 01 February, 1997 (01.02.97), Column 6, line 48 to column 7, line 56; Figs. 1 to 5 & JP 54-3776 B2 column 8, line 25 to column 10, line 6; Figs. 1 to 5	7-9,17-19
A	US 5346386 A (KRUPP CORPOPLAST MASCHINENBAU GMBH.), 13 September, 1994 (13.09.94), & DE 4212583 A1 & EP 565917 A1 & ES 2094399 T3 & JP 6-15724 A	7-9,17-19
A	US 5326250 A (SIDEL), 05 July, 1994 (05.07.94), & BR 9203705 A & DE 69204407 E & EP 534838 A1 & ES 2076714 T3 & FR 2681552 A1 & JP 6-39909 A & KR 9512866 B1	7-9,17-19
X A	JP 5-41420 B2 (Toyo Seikan Kaisha, Ltd.), 23 June, 1993 (23.06.93), Column 7, line 2 to column 14, line 19; drawings (Family: none)	10 11-19
A	US 4479772 A (KRUPP CORPOPLAST MASCHINENBAU GMBH.), 30 October, 1984 (30.10.84), Column 3, line 19 to column 4, line 40; Figs. & JP 58-25933 A page 3, lower right column, line 3 to page 4, lower right column, line 12; drawings & DE 3130129 A & FR 2510470 A	10-19
A	EP 1070579 A1 (FRONTIER INC.), 24 January, 2001 (24.01.01), & JP 2000-117821 A & BR 9906881 A & CN 1287527 A & KR 2001033395 A & TW 453945 A & US 6457967 B1 & WO 2000/023253 A1	10-19

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Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See extra sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.
☒ No protest accompanied the payment of additional search fees.

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Continuation of Box No. II of continuation of first sheet(1)

Claims 1, 2 relate to a transfer mechanism of a blow-forming apparatus, where the special technical feature of the claims is that the mechanism has a turntable, a circular guide rail, sliders, a holding portion, a swing arm, and a slide-type connection portion.

Claims 3-6 relate to a reversal transfer mechanism of a blow-forming apparatus, where the special technical feature of the claims is that the mechanism has a turntable, a hollow cylinder member, a shaft member, a gripper, and a cam mechanism for rotation.

Claims 7-9 relate to a mold opening/closing mechanism for a blow-forming apparatus, where the special technical feature of the claims is that the mechanism has a turntable, a lifting/lowering shaft, a slider, and a pair of operating arms.

Claims 10-19 relate to a blow-forming apparatus, where the special technical feature of the claims is that the apparatus has a preform-supplying station, a heating station, a blowing station, and a recovering station.

Therefore, there is no technical relationship between the inventions of Claims 1, 2, Claims 3-6, Claims 7-9, and Claims 10-19 including one or more of the same or corresponding special technical features.